



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1194904  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1194904

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing     Pumping     Gas Lift     Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Norstar Petroleum, Inc.
Well Name	Durham 2-24
Doc ID	1194904

Tops

Name	Top	Datum
Anhydrite	2508	+498
Topeka	3825	-819
Heebner	3985	-979
Toronto	4004	-998
Lansing	4023	-1017
Stark Shale	4240	-1234
Pawnee	4423	-1417
Ft. Scott	4460	-1454
Cherokee	4482	-1476
Johnson	4558	-1552
Mississippi	4585	-1579



**JOB LOG**

**SWIFT Services, Inc.**

DATE 1-21-14 PAGE NO.

CUSTOMER Norstar Petroleum

WELL NO. # 2-24

LEASE Durham

JOB TYPE Longstring

TICKET NO. 25088

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1615							on loc w/ FE
								RTD 4660' LTD 4661'
								5 1/2" x 14 # x 4655' x 4 #
								Cent. 1, 3, 5, 7, 9, 11, 13, 15, 17, 49, 51
								Back 15, 50
								P.C. 50 @ 2530
	1715							start FE
	1915							Break Circ.
	2025	2.5	7					Plug RH 30sks EA-2
	2030	5	0			200		start 500 gal Mud Flush
		5	12/0			200		start KCL Flush 20 bbl
		5	20/0			200		start 195sks EA-2
	2045		48					End Cement
								Wash P/L
	2052	6	0			200		Drop L.D. Plug
		4	85			300		Catch Cement
	2115		112.5			400/1300		Land Plug
								Release Pressure
								Float Held

Thank you

Nick, David E. & Samad

**JOB LOG**

**SWIFT Services, Inc.**

DATE 1-31-14 PAGE NO.

CUSTOMER *Norstar Res,* WELL NO. *2225* LEASE *Durham* JOB TYPE *Port-Weller* TICKET NO. *25282*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1030							on location
	1335							locate PC @ 2570 Pressure test
	1415	3				-	500	open PC Injection Mark
	1420	3				✓	500	Start Cement
		3	2			✓	500	get circulation
			115			✓		Circulate cement
			120			-		Bring up weight
			8			-		Start Displacement
	1455							close PC
	1520					-	1000	Pressure test Run 5 joints
	1515		30			✓		Reverse out clean wash up back up get more water
								mixed 230 sls 20 sls to pit
	1630							Job complete Thank You Josh, Brian, Doug



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.17 @ 12:20:33

End Date: 2014.01.17 @ 18:15:33

Job Ticket #: 56613                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:48:37



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56613 **DST#: 1**  
 Test Start: 2014.01.17 @ 12:20:33

## GENERAL INFORMATION:

Formation: **Toronto**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 14:21:18  
 Time Test Ended: 18:15:33  
 Interval: **3991.00 ft (KB) To 4007.00 ft (KB) (TVD)**  
 Total Depth: 4007.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

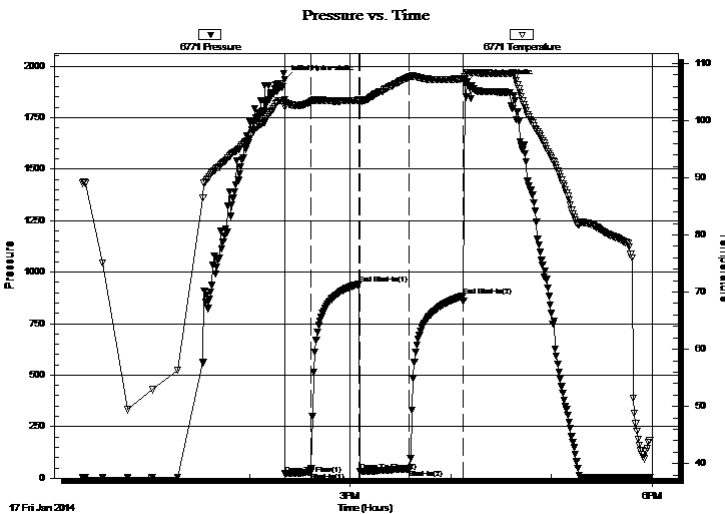
## Serial #: 6771

Inside

Press@RunDepth: 44.94 psig @ 3992.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.17 End Date: 2014.01.17 Last Calib.: 2014.01.17  
 Start Time: 12:20:33 End Time: 17:58:33 Time On Btm: 2014.01.17 @ 14:21:03  
 Time Off Btm: 2014.01.17 @ 16:08:33

TEST COMMENT: 1" blow  
 No return  
 1/4" blow  
 No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.96	103.64	Initial Hydro-static
1	20.09	102.47	Open To Flow (1)
16	29.78	103.22	Shut-In(1)
45	942.50	103.59	End Shut-In(1)
45	32.09	103.31	Open To Flow (2)
75	44.94	107.63	Shut-In(2)
107	884.58	107.32	End Shut-In(2)
108	1913.41	107.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	m c w 40% m 60% w	0.30
0.00	2" in free oil on top	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

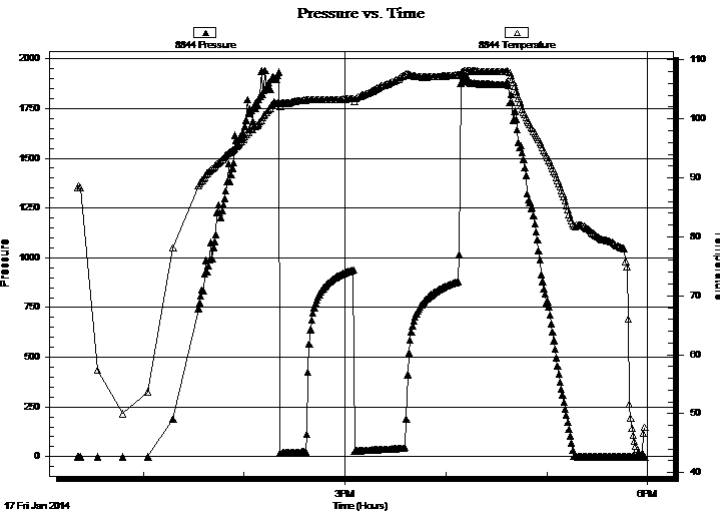
**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56613      **DST#: 1**  
 Test Start: 2014.01.17 @ 12:20:33

## GENERAL INFORMATION:

Formation: **Toronto**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 14:21:18  
 Time Test Ended: 18:15:33  
 Interval: **3991.00 ft (KB) To 4007.00 ft (KB) (TVD)**  
 Total Depth: 4007.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8844 Outside**  
 Press@RunDepth: psig @ 3992.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.01.17      End Date: 2014.01.17      Last Calib.: 2014.01.17  
 Start Time: 12:20:55      End Time: 17:58:40      Time On Btm:  
 Time Off Btm:

TEST COMMENT: 1" blow  
 No return  
 1/4" blow  
 No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	m c w 40% m 60% w	0.30
0.00	2" in free oil on top	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56613      **DST#: 1**  
Test Start: 2014.01.17 @ 12:20:33

**Tool Information**

Drill Pipe:	Length: 3866.00 ft	Diameter: 3.80 inches	Volume: 54.23 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3991.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3964.00	
Shut In Tool	5.00			3969.00	
Hydraulic tool	5.00			3974.00	
Jars	5.00			3979.00	
Safety Joint	3.00			3982.00	
Packer	5.00			3987.00	28.00      Bottom Of Top Packer
Packer	4.00			3991.00	
Stubb	1.00			3992.00	
Recorder	0.00	6771	Inside	3992.00	
Recorder	0.00	8844	Outside	3992.00	
Perforations	10.00			4002.00	
Bullnose	5.00			4007.00	16.00      Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56613      **DST#: 1**  
Test Start: 2014.01.17 @ 12:20:33

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 22000 ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.97 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 1400.00 ppm		
Filter Cake: 2.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	m c w 40% m 60% w	0.295
0.00	2" in free oil on top	0.000

Total Length: 60.00 ft      Total Volume: 0.295 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: rw .511 @40\*f = 22,000 chlor

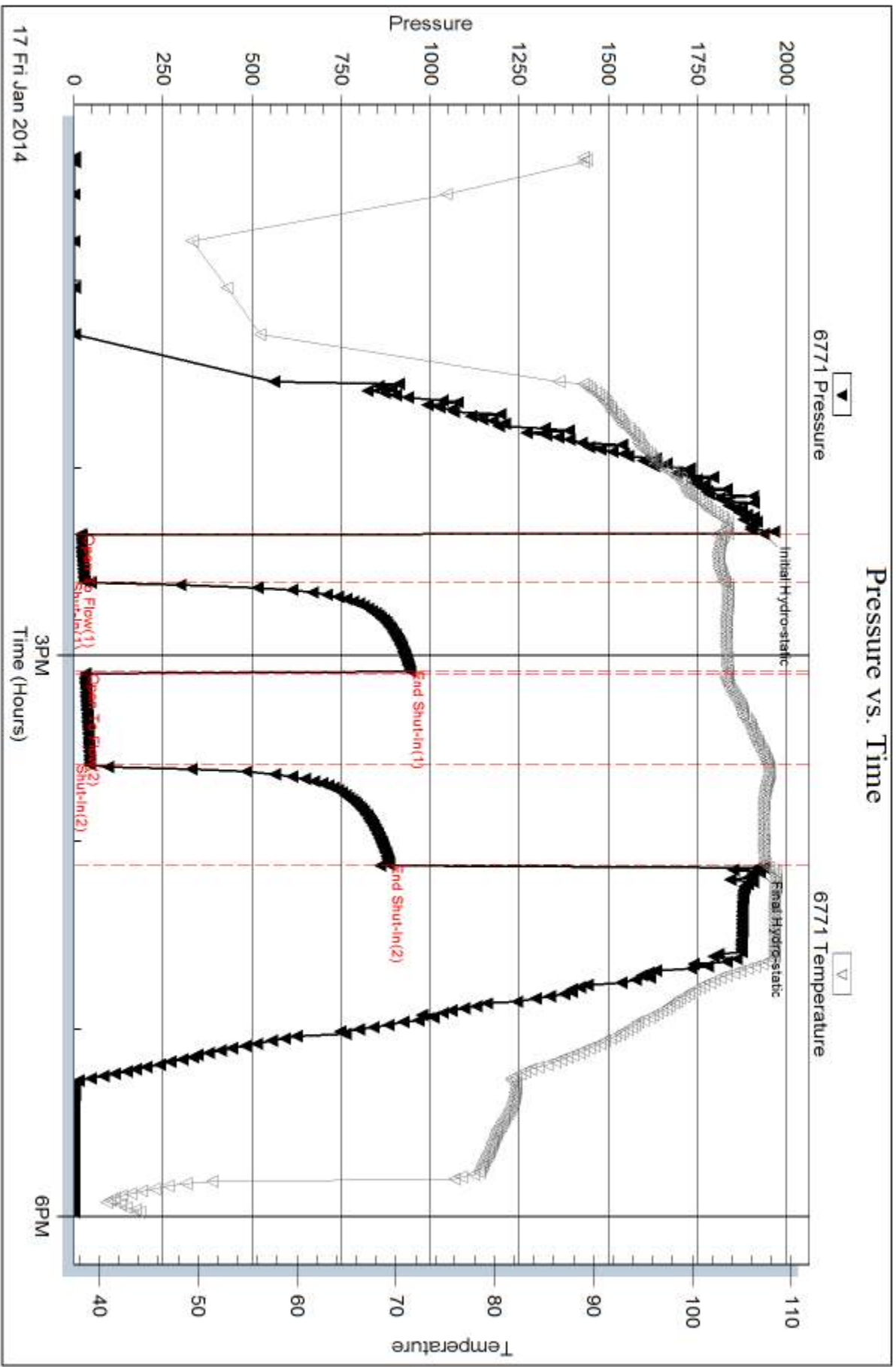
Serial #: 6771

Inside

Norstar Petroleum Inc

Durham#2-24

DST Test Number: 1

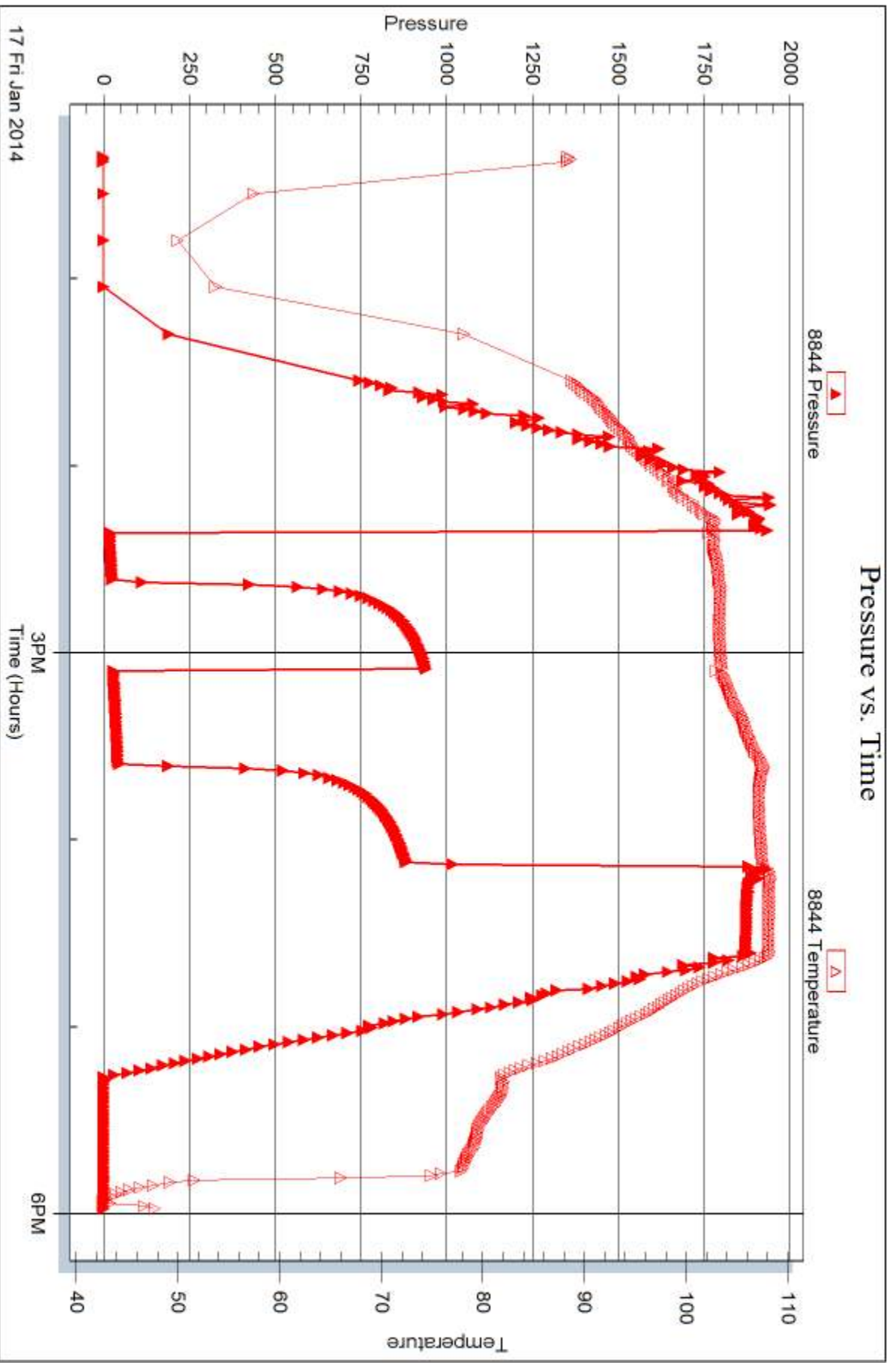


Serial #: 8844

Outside Norstar Petroleum Inc

Durham#2-24

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 56613

Printed: 2014.01.22 @ 15:48:40



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

#### **24-11-32w Logan,KS**

Start Date: 2014.01.18 @ 06:00:29

End Date: 2014.01.18 @ 13:40:44

Job Ticket #: 56614                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:48:13



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

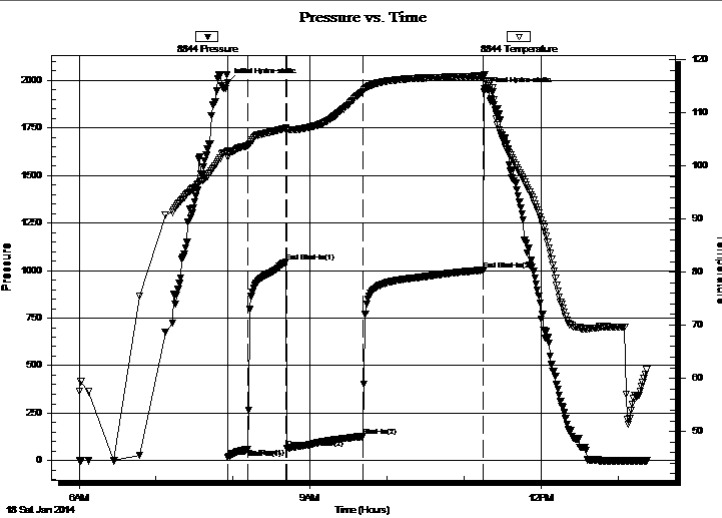
**24-11-32w Logan, KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

## GENERAL INFORMATION:

Formation: **D,E,F**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 07:55:59  
Time Test Ended: 13:40:44  
Interval: **4084.00 ft (KB) To 4114.00 ft (KB) (TVD)**  
Total Depth: 4114.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Shane McBride  
Unit No: 55  
Reference Elevations: 3006.00 ft (KB)  
3001.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8844      Outside**  
Press@RunDepth: 127.74 psig @ 4085.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.01.18      End Date: 2014.01.18      Last Calib.: 2014.01.18  
Start Time: 06:00:29      End Time: 13:22:44      Time On Btm: 2014.01.18 @ 07:55:44  
Time Off Btm: 2014.01.18 @ 11:15:29

**TEST COMMENT:** B.O.B. in 15 min.  
Very weak Surface return died in 21 min.  
B.O.B. in 20 min.  
1/4" return blow , died back to a surface blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.91	102.79	Initial Hydro-static
1	19.05	101.61	Open To Flow (1)
16	60.68	103.79	Shut-In(1)
46	1044.91	107.11	End Shut-In(1)
46	64.29	106.85	Open To Flow (2)
106	127.74	114.07	Shut-In(2)
200	1002.65	116.94	End Shut-In(2)
200	1940.50	117.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	m c g o 20g 40m 40o	0.15
60.00	s m c g o 15m 20g 65o	0.30
205.00	c g o 15g 85o	2.57
0.00	305' gas in pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

**Tool Information**

Drill Pipe:	Length: 3963.00 ft	Diameter: 3.80 inches	Volume: 55.59 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4084.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4057.00	
Shut In Tool	5.00			4062.00	
Hydraulic tool	5.00			4067.00	
Jars	5.00			4072.00	
Safety Joint	3.00			4075.00	
Packer	5.00			4080.00	28.00      Bottom Of Top Packer
Packer	4.00			4084.00	
Stubb	1.00			4085.00	
Recorder	0.00	6771	Inside	4085.00	
Recorder	0.00	8844	Outside	4085.00	
Perforations	24.00			4109.00	
Bullnose	5.00			4114.00	30.00      Bottom Packers & Anchor

**Total Tool Length: 58.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56614      **DST#: 2**  
Test Start: 2014.01.18 @ 06:00:29

### Mud and Cushion Information

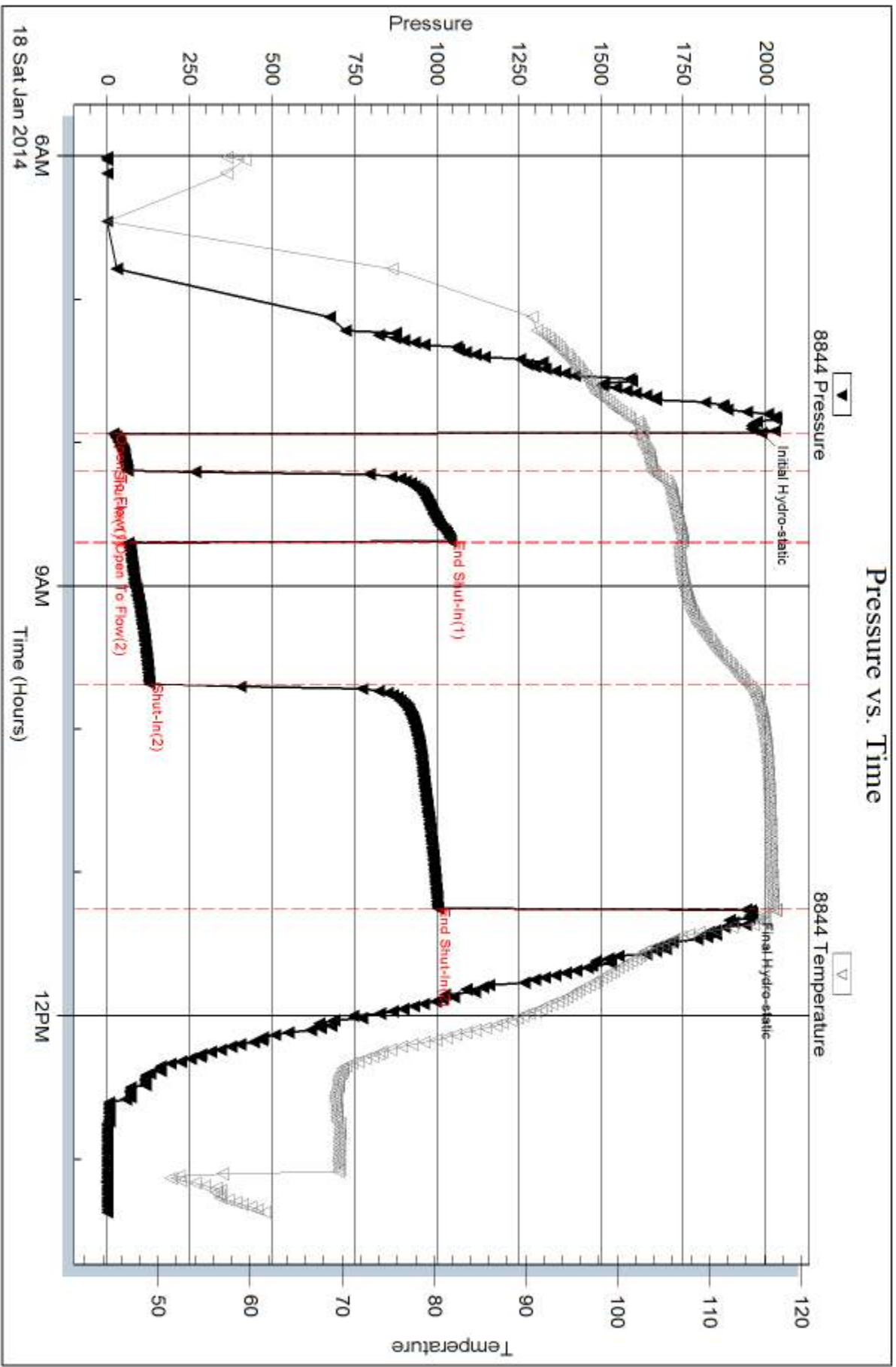
Mud Type: Gel Chem	Cushion Type:	Oil API: 37 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 1400.00 ppm		
Filter Cake: 2.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	m c g o 20g 40m 40o	0.148
60.00	s m c g o 15m 20g65o	0.295
205.00	c g o 15g 85o	2.575
0.00	305' gas in pipe	0.000

Total Length: 295.00 ft      Total Volume: 3.018 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.18 @ 21:25:44

End Date: 2014.01.19 @ 04:55:29

Job Ticket #: 56615                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:47:50



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

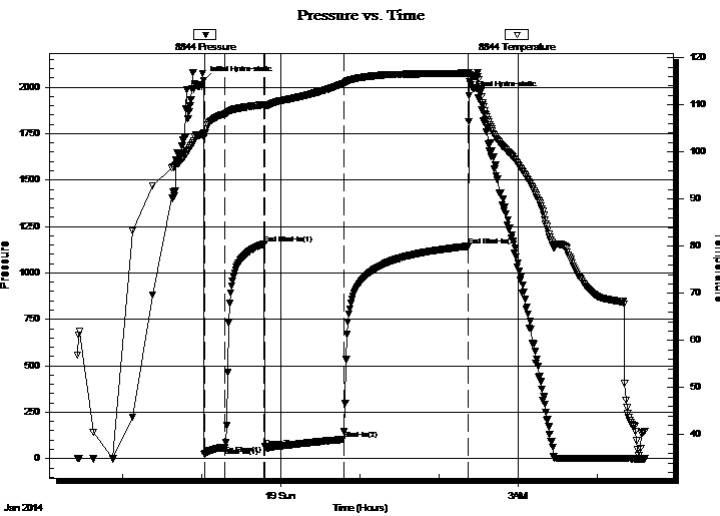
**24-11-32w Logan, KS**  
**Durham #2-24**  
Job Ticket: 56615      **DST#: 3**  
Test Start: 2014.01.18 @ 21:25:44

## GENERAL INFORMATION:

Formation: **H**  
Deviated: No      Whipstock: 0.00 ft (KB)  
Time Tool Opened: 23:01:44  
Time Test Ended: 04:55:29  
Interval: **4152.00 ft (KB) To 4182.00 ft (KB) (TVD)**  
Total Depth: 4182.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Shane McBride  
Unit No: 55  
Reference Elevations: 3006.00 ft (KB)  
3001.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8844      Outside**  
Press@RunDepth: 103.14 psig @ 4153.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.01.18      End Date: 2014.01.19      Last Calib.: 2014.01.19  
Start Time: 21:25:44      End Time: 04:36:29      Time On Btm: 2014.01.18 @ 23:01:29  
Time Off Btm: 2014.01.19 @ 02:22:44

TEST COMMENT: 10" blow  
No return  
B.O.B. in 17 min  
1/4" return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.53	104.10	Initial Hydro-static
1	22.63	103.30	Open To Flow (1)
16	58.42	108.04	Shut-In(1)
46	1156.04	110.05	End Shut-In(1)
47	63.69	109.77	Open To Flow (2)
106	103.14	114.52	Shut-In(2)
201	1143.50	116.76	End Shut-In(2)
202	1954.83	116.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	m c g o 25g 35m 40o	0.30
90.00	s m c g o 15m 20g 65o	0.69
80.00	c g o 15g 85o	1.12
0.00	490' gas in pipe	0.00

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56615 **DST#: 3**  
Test Start: 2014.01.18 @ 21:25:44

**Tool Information**

Drill Pipe:	Length: 4026.00 ft	Diameter: 3.80 inches	Volume: 56.47 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4152.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4125.00	
Shut In Tool	5.00			4130.00	
Hydraulic tool	5.00			4135.00	
Jars	5.00			4140.00	
Safety Joint	3.00			4143.00	
Packer	5.00			4148.00	28.00 Bottom Of Top Packer
Packer	4.00			4152.00	
Stubb	1.00			4153.00	
Recorder	0.00	6771	Inside	4153.00	
Recorder	0.00	8844	Outside	4153.00	
Perforations	24.00			4177.00	
Bullnose	5.00			4182.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56615      **DST#: 3**  
Test Start: 2014.01.18 @ 21:25:44

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.39 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 1500.00 ppm		
Filter Cake: 2.00 inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	m c g o 25g 35m 40o	0.295
90.00	s m c g o 15m 20g 65o	0.689
80.00	c g o 15g 85o	1.122
0.00	490' gas in pipe	0.000

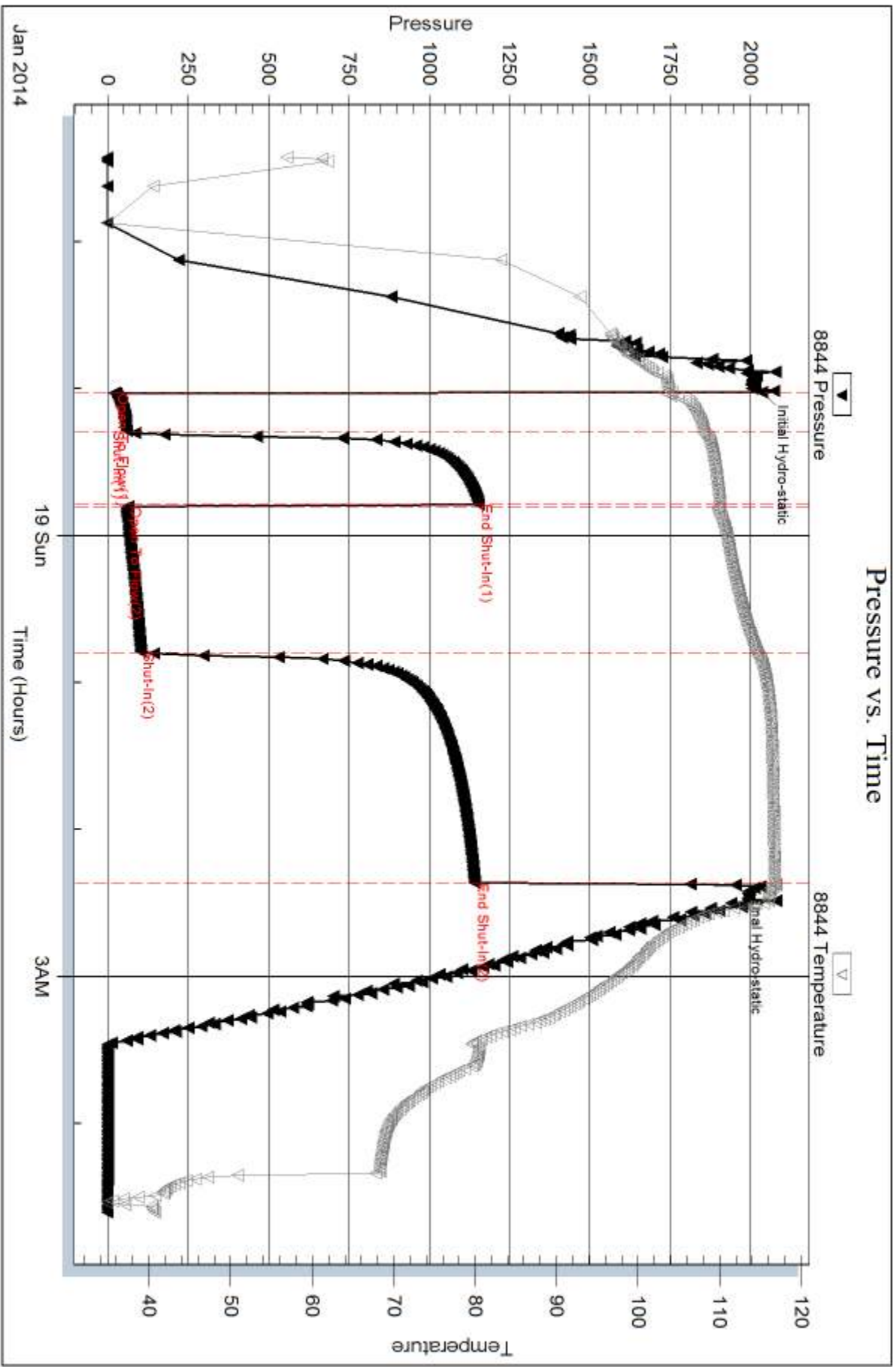
Total Length: 230.00 ft      Total Volume: 2.106 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

Serial #: 8844

Outside Norstar Petroleum Inc

Durham#2-24

DST Test Number: 3





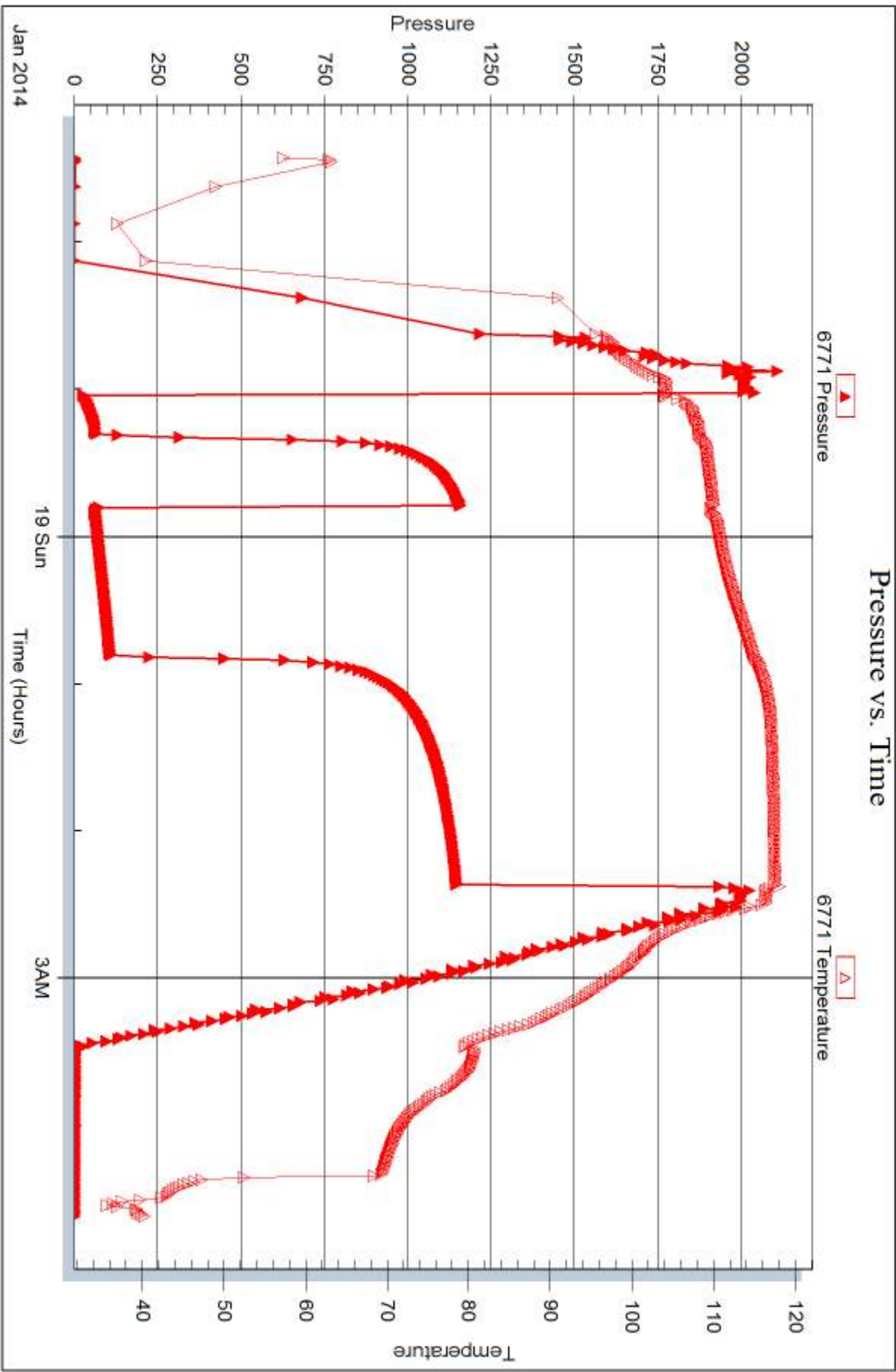
Serial #: 6771

Inside

Norstar Petroleum Inc

Durham#2-24

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 56615

Printed: 2014.01.22 @ 15:47:52



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514

ATTN: Bob Elder

### **Durham #2-24**

### **24-11-32w Logan,KS**

Start Date: 2014.01.19 @ 16:00:32

End Date: 2014.01.19 @ 21:20:17

Job Ticket #: 56616                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.22 @ 15:47:01



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56616 **DST#: 4**  
 Test Start: 2014.01.19 @ 16:00:32

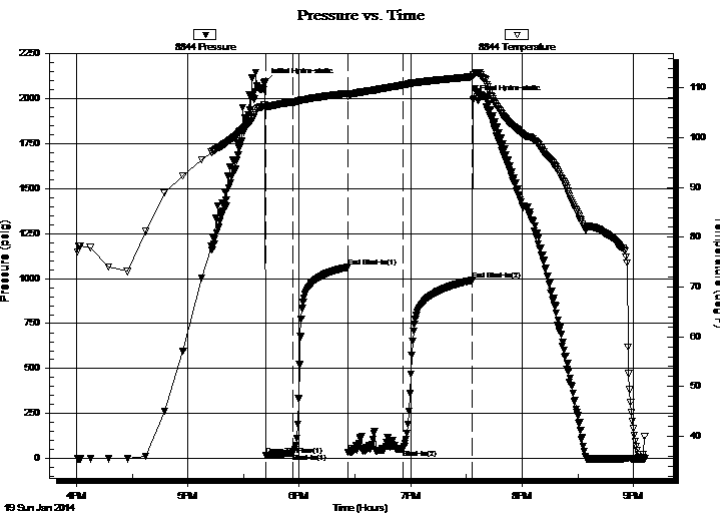
## GENERAL INFORMATION:

Formation: **K**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 17:41:47  
 Time Test Ended: 21:20:17  
 Interval: **4234.00 ft (KB) To 4264.00 ft (KB) (TVD)**  
 Total Depth: 4264.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8844 Outside

Press@RunDepth: 53.44 psig @ 4235.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.19 End Date: 2014.01.19 Last Calib.: 2014.01.19  
 Start Time: 16:00:32 End Time: 21:06:17 Time On Btm: 2014.01.19 @ 17:41:32  
 Time Off Btm: 2014.01.19 @ 19:33:32

TEST COMMENT: 1 1/2" blow  
 No return  
 1/4" blow  
 No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.08	106.67	Initial Hydro-static
1	17.39	105.86	Open To Flow (1)
15	30.96	107.15	Shut-In(1)
45	1063.50	108.94	End Shut-In(1)
45	36.33	108.35	Open To Flow (2)
75	53.44	110.59	Shut-In(2)
112	990.74	112.28	End Shut-In(2)
112	1996.58	112.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	s o c m 4%o 96%m	0.34

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum Inc  
 88 Inverness Cir E Unit F 104  
 Englewood, CO 80112-5514  
 ATTN: Bob Elder

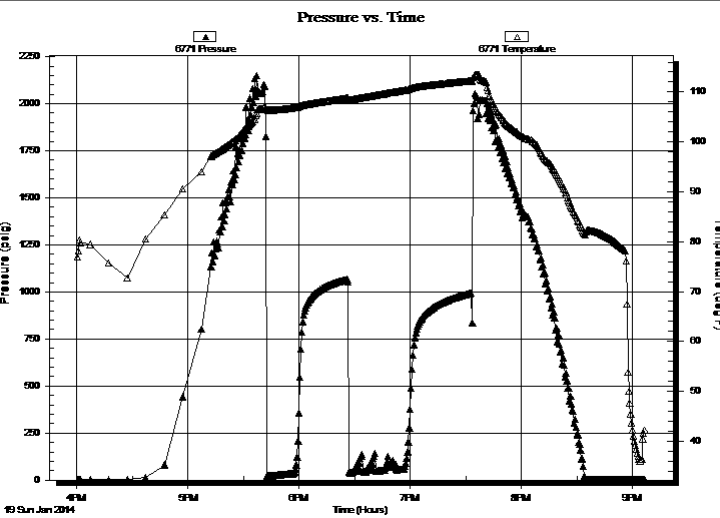
**24-11-32w Logan, KS**  
**Durham #2-24**  
 Job Ticket: 56616 **DST#: 4**  
 Test Start: 2014.01.19 @ 16:00:32

### GENERAL INFORMATION:

Formation: **K**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 17:41:47  
 Time Test Ended: 21:20:17  
 Interval: **4234.00 ft (KB) To 4264.00 ft (KB) (TVD)**  
 Total Depth: 4264.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Shane McBride  
 Unit No: 55  
 Reference Elevations: 3006.00 ft (KB)  
 3001.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6771 Inside**  
 Press@RunDepth: psig @ 4235.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.19 End Date: 2014.01.19 Last Calib.: 2014.01.19  
 Start Time: 16:00:23 End Time: 21:06:38 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 1 1/2" blow  
 No return  
 1/4" blow  
 No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
70.00	s o c m 4%o 96%m	0.34

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56616 **DST#: 4**  
Test Start: 2014.01.19 @ 16:00:32

## Tool Information

Drill Pipe:	Length: 4090.00 ft	Diameter: 3.80 inches	Volume: 57.37 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4234.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4207.00	
Shut In Tool	5.00			4212.00	
Hydraulic tool	5.00			4217.00	
Jars	5.00			4222.00	
Safety Joint	3.00			4225.00	
Packer	5.00			4230.00	28.00 Bottom Of Top Packer
Packer	4.00			4234.00	
Stubb	1.00			4235.00	
Recorder	0.00	6771	Inside	4235.00	
Recorder	0.00	8844	Outside	4235.00	
Perforations	24.00			4259.00	
Bullnose	5.00			4264.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum Inc  
88 Inverness Cir E Unit F 104  
Englewood, CO 80112-5514  
ATTN: Bob Elder

**24-11-32w Logan,KS**  
**Durham #2-24**  
Job Ticket: 56616      **DST#: 4**  
Test Start: 2014.01.19 @ 16:00:32

### Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	6.79 in <sup>3</sup>	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1900.00 ppm				
Filter Cake:	2.00 inches				

### Recovery Information

Recovery Table

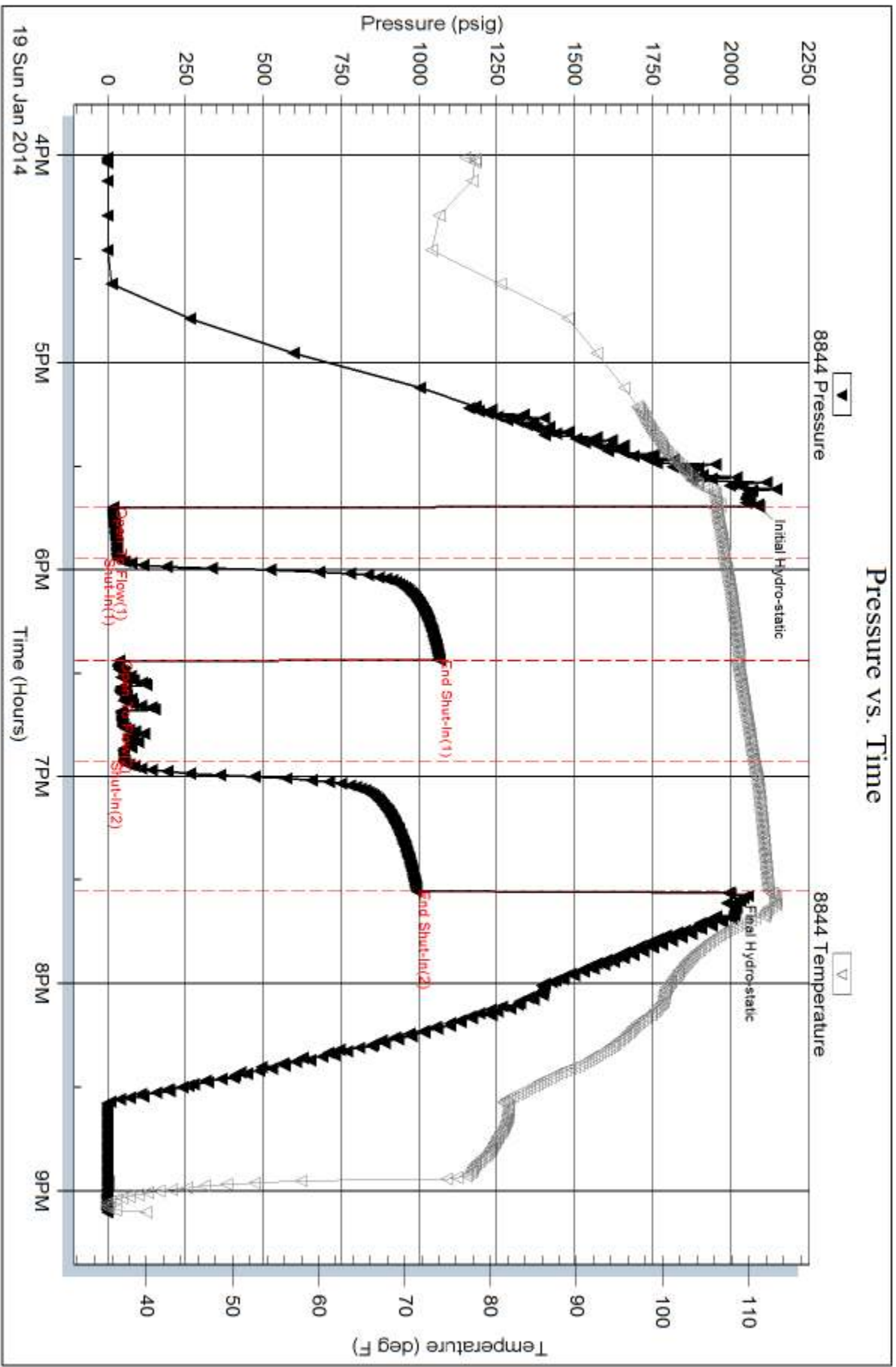
Length ft	Description	Volume bbbl
70.00	s o c m 4%o 96%m	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:



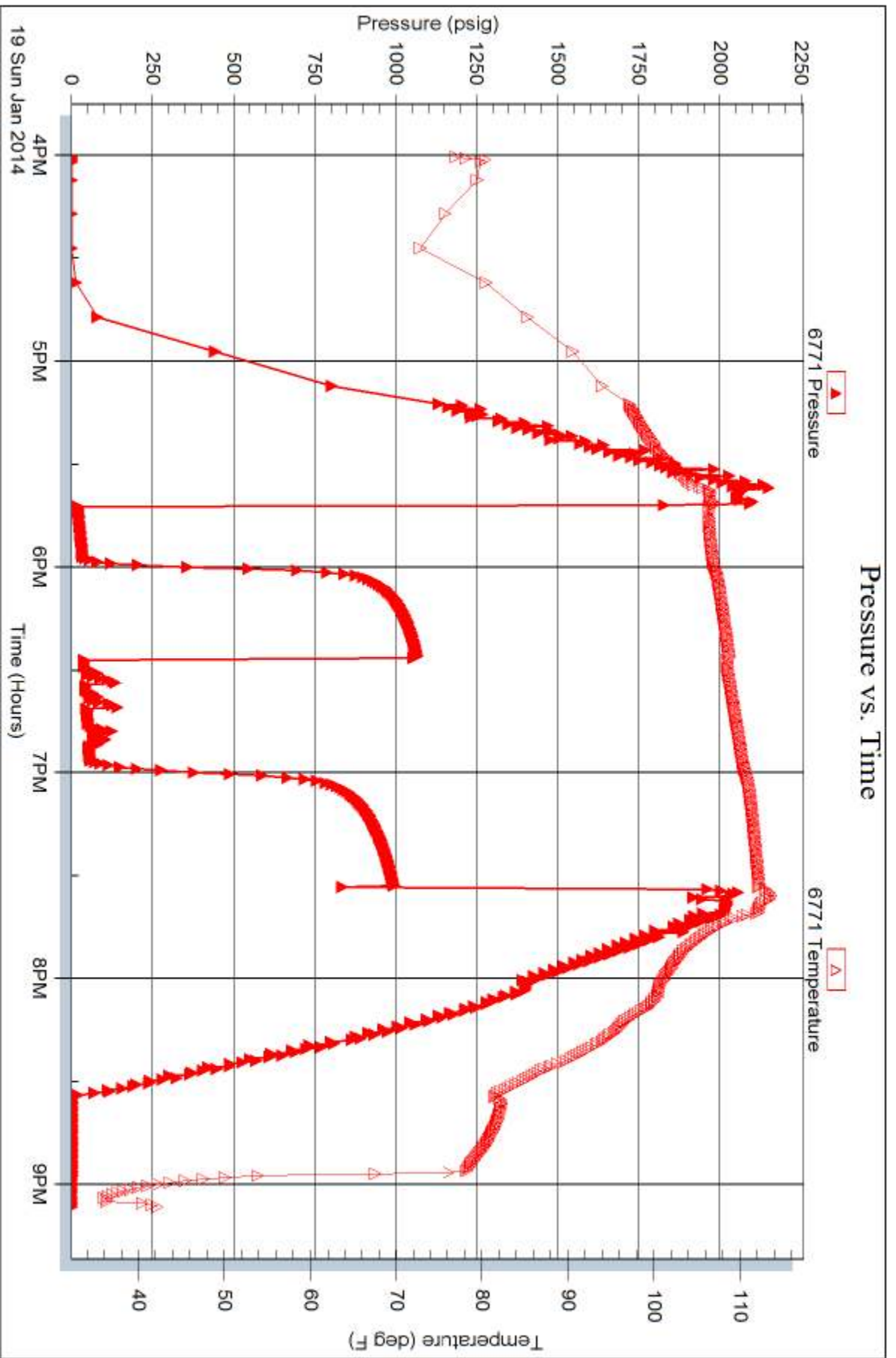
Serial #: 6771

Inside

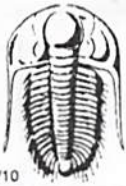
Norstar Petroleum Inc

Durham#2-24

DST Test Number: 4







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56613

4/10

Well Name & No. Durham #2-2d Test No. #1 Date 1/17/14  
 Company Norstar Petroleum Inc. Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit F104, Englewood Colo, 8012-514  
 Co. Rep / Geo. Bob Elder Rig WJ#10  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Logan State Ks

Interval Tested 3991 4007 Zone Tested Toronto  
 Anchor Length 16 Drill Pipe Run 3864 Mud Wt. 9.0  
 Top Packer Depth 3986 Drill Collars Run 123 Vis 65  
 Bottom Packer Depth 3991 Wt. Pipe Run — WL 6.0  
 Total Depth 4007 Chlorides 1400 ppm System LCM #1/2

Blow Description 1" in blow  
No return  
1/4" in blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60'</u>	<u>new</u>			<u>60</u>	<u>40</u>
	<u>2" in free oil on top</u>				

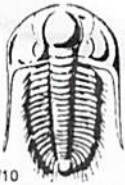
Rec Total 60' BHT 107° Gravity — API RW 1.511 @ 80 ° F Chlorides 22,000 ppm

(A) Initial Hydrostatic <u>1935</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:50</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:20</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:20</u>
(D) Initial Shut-In <u>942</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>16:05</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby	T-Out
(F) Second Final Flow <u>44</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> <u>145.70</u>	Comments
(G) Final Shut-In <u>884</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1913</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>2220.70</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc
	Sub Total <u>2220.70</u>	

Approved By Bob Elder Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56614

4/10

Well Name & No. Durham #2-24 Test No. #2 Date 1/18/14  
 Company Norstar Petroleum Inc Elevation 3006 KB 3001 GL  
 Address 88 Edgewood Cir F Unit F109, Englewood, Colo 80112-5514  
 Co. Rep / Geo. Bob Elder Rig WW #10  
 Location: Sec. 24 Twp. 11 Rge. 32w Co. Logan State Ks

Interval Tested 4084 4114 Zone Tested D-E-F  
 Anchor Length 30 Drill Pipe Run 3963 Mud Wt. 8.9  
 Top Packer Depth 4079 Drill Collars Run 123' Vis 58  
 Bottom Packer Depth 4084 Wt. Pipe Run --- WL 6.0  
 Total Depth 4114 Chlorides 1400 ppm System LCM #2

Blow Description B.O.B. in 15 min  
Very weak return in 8 min died in 21 min  
B.O.B. in 20 min  
1/4" in return blow died back to a surface blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>205</u>	<u>Cgo</u>	<u>15</u>	<u>85</u>		
<u>60</u>	<u>Smcgo</u>	<u>20</u>	<u>65</u>		<u>15</u>
<u>30</u>	<u>mcgo</u>	<u>20</u>	<u>40</u>		<u>40</u>
	<u>305' Gas in pipe</u>				

Rec Total 295' BHT 117° Gravity 37 API RW --- @ --- F Chlorides --- ppm

(A) Initial Hydrostatic <u>1987</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>05:30</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>06:00</u>
(C) First Final Flow <u>60</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>07:55</u>
(D) Initial Shut-In <u>1044</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>11:10</u>
(E) Second Initial Flow <u>64</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>13:40</u>
(F) Second Final Flow <u>127</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> <u>145.70</u>	Comments <u>---</u>
(G) Final Shut-In <u>1002</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>1940</u>	<input type="checkbox"/> Straddle <u>---</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 90

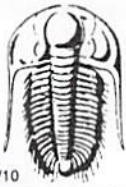
Shale Packer ---  
 Extra Packer ---  
 Extra Recorder ---  
 Day Standby ---  
 Accessibility ---

Sub Total 2220.70

Total 2220.70  
 MP/DST Disc't ---

Approved By [Signature] Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **56615**

4/10

Well Name & No. Darham #2-24 Test No. #3 Date 1/19/14  
 Company Norstar Petroleum Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit F104, Englewood, Colo. 80112  
 Co. Rep / Geo. Bob Elder Rig WOW #8  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Dogon State KS

Interval Tested 4152 4182 Zone Tested H  
 Anchor Length 30 Drill Pipe Run 4026 Mud Wt. 9.0  
 Top Packer Depth 4147 Drill Collars Run 123' Vis 57  
 Bottom Packer Depth 4152 Wt. Pipe Run --- WL 6.4  
 Total Depth 4182 Chlorides 1500 ppm System LCM #2

Blow Description 10" m blow  
No return  
B.O.B. in 17 min  
1/4" in return blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>cgo</u>	<u>15</u>	<u>85</u>		
<u>90</u>	<u>smcgo</u>	<u>20</u>	<u>65</u>		<u>15</u>
<u>60</u>	<u>mcgo</u>	<u>25</u>	<u>40</u>		<u>35</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>(490' Gas in pipe)</u>	%gas	%oil	%water	%mud

Rec Total 230' BHT 116° Gravity 34 API RW --- @ --- ° F Chlorides --- ppm

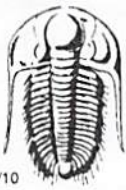
(A) Initial Hydrostatic	<u>2036</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>21:20</u>
(B) First Initial Flow	<u>22</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>21:25</u>
(C) First Final Flow	<u>58</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>23:02</u>
(D) Initial Shut-In	<u>1156</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>02:17</u>
(E) Second Initial Flow	<u>63</u>	<input type="checkbox"/> Hourly Standby		T-Out	
(F) Second Final Flow	<u>103</u>	<input checked="" type="checkbox"/> Mileage	<u>94 RT</u> <u>145.70</u>	Comments	
(G) Final Shut-In	<u>1143</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1954</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
		<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
		<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
		<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
		<input type="checkbox"/> Day Standby		Total	<u>2220.70</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>2220.70</u>		

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 90

Approved By Bob Elder

Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56616

4/10

Well Name & No. Durham # 2-24 Test No. #4 Date 1/19/14  
 Company Norstar Petroleum Elevation 3006 KB 3001 GL  
 Address 88 Inverness Cir E Unit F104 Englewood Colo 80112  
 Co. Rep / Geo. Bob Elder Rig WWT#10  
 Location: Sec. 24 Twp. 11 Rge. 32W Co. Hagan State Ks

Interval Tested 4234 4264 Zone Tested K  
 Anchor Length 30 Drill Pipe Run 4090 Mud Wt. 9.2  
 Top Packer Depth 4229 Drill Collars Run 123' Vis SR  
 Bottom Packer Depth 4234 Wt. Pipe Run --- WL 6.8  
 Total Depth 4264 Chlorides 1900 ppm System LCM #2

Blow Description 1 1/2" in blow  
No return  
1/4" in blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70'</u>	<u>80cm</u>	<u>4</u>		<u>96</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70' BHT 113° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>2092</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>15:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>16:00</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:40</u>
(D) Initial Shut-In <u>1063</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>19:25</u>
(E) Second Initial Flow <u>34</u>	<input type="checkbox"/> Hourly Standby	T-Out
(F) Second Final Flow <u>53</u>	<input checked="" type="checkbox"/> Mileage <u>94 RT</u> 291.40	Comments <u>loaded tools 1/20 21:00</u>
(G) Final Shut-In <u>990</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1996</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>1866.40</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1866.40</u>	

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Approved By Bob Elder Our Representative [Signature]

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